Results of Clinical and Hygienic Studies of Fixed Dentures in the Oral Cavity

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Relevance. In the modern world, the loss of one or more teeth as a result of dental diseases is one of the serious problems of the healthcare system, since it leads to a decrease in the quality of life of the patient, which leads to various diseases. According to an epidemiological study by the World Health Organization (WHO), partial or complete absence of teeth due to injuries, caries and periodontitis is observed in 75% of the population in different regions of the world [1.3.5.7.9]. According to some authors, the proportion of complete occlusive defects increases with age. Often, in the absence of one or more teeth, treatment is carried out with conventional portable prostheses or bridge prostheses with a base in the formed teeth. The need for orthopedic treatment remains high: from 30.3% in the age group of 20-29 years to 68.1% in the age group of 50-59 years. In turn, the high frequency of patients with dentition defects requires the speedy solution of such social, physiological, aesthetic and psychological problems [2.4.6.8.10].

A number of studies are being conducted around the world aimed at improving the effectiveness of various methods of prosthetics using a support-retaining device. In this regard, to improve methods for diagnosing the condition of oral tissues; development of new models of dentures; development of orthopedic prostheses for internal bone implants; to determine the shape of dentures, as well as their physico-chemical properties; detection of cancer development in the area of periimplantitis; development of prostheses of a special design with a different set of shapes and sizes that allow patients to operate in any clinical setting; The priority area of research remains the improvement of modern technologies in dentures. In addition, preventing possible complications by creating dentures, determining the state of microcirculation in the tissues around dentures, determining the level of pressure on the periodontal teeth after prosthetics with insoluble dental structures and adapting to the dentition to restore chewing function are the most pressing issues [11.12.13.14].

The purpose of the study. Choosing the optimal type of prosthesis based on a comparative assessment of the impact of cermet and zircon prostheses on the oral mucosa and immune factors protecting the oral cavity.

Research objectives.

determination of the types of structural materials in patients using fixed prostheses;

determination of the condition of the marginal gum, pulp and periodontal tissues in the area of the prosthesis;

structural and functional assessment of marginal gum tissue of supporting and retaining teeth, taking into account the design features of metal-ceramic prostheses;

investigation of microcirculation in the area of supporting and retaining teeth in patients with fixed prostheses;

determination of the level of galvanic currents in the oral cavity for various prostheses;

investigation of the state of immune homeostasis of the oral mucosa in patients before and after prosthetics of various orthopedic structures;

assessment of cytokine status in patients before and after orthopedic structures, as well as their role in predicting the process and results of prosthetics.

The main direction in collecting anamnesis was to determine the etiology of dental defects, their topography, the nature of changes, the degree of functional disorders, the presence of secondary deformities of the tooth, the condition of periodontal tissues.

Defective teeth and so on. A detailed survey of the patient, as well as an examination of the oral cavity, made it possible to make an initial prognosis of orthopedic treatment. In addition to traditional methods of examination of patients, additional methods of studying the reaction of tissues were used.

Determination of the physical and mechanical parameters of the tooth, as well as calculation of the subcutaneous mucosa and the construction of supraconstructions using computer programs. A thorough study of the degree and nature of occlusal contact of the tooth is required not only in the oral cavity, but also on models to study the distribution of internal pressures both in the prosthesis itself and in its supporting elements. When designing permanent bridges in different groups of patients with plaster models of jaws, the method of distributing the number of supporting elements and the functional load of chewing was studied [4.6.8.9].

When identifying prosthetics and selecting orthopedic prostheses, local anti-inflammatory therapy was carried out: oral sanitation, dental cavity sanitation, conservative and minimally invasive methods of periodontal disease treatment, oral hygiene training. All dental interventions took into account the individual characteristics of patients and, if necessary, consulted with appropriate specialists.

Orthopedic treatment was carried out with the expectation of rational prostheses, taking into account subsequent adverse events and financial capabilities of patients. Patients were informed about possible adverse events and complications when removing bridges in the oral cavity [15.16].

Diagnostic monitoring of the periodontal condition was carried out in the area of the location of the base teeth before and after the installation of metal-ceramic and zirconium coatings, as well as for 1, 3, 6, 12 months after primary and repeated prosthetics.

Orthopedic treatment was carried out according to the generally accepted method:

1) depulpation of teeth and endodontic treatment according to strict recommendations - dystopia and convergence of teeth, Popov-Hodon phenomenon;
2) preparation of teeth for supporting structures, taking into account the choice of the type of bridges, in addition to pulp damage;
3) making a temporary crown until the end of the final prosthesis;
4) installation of metal structures under the bridge;
5) installation of a bridge prosthesis that determines the color and aesthetic performance;
6) temporary installation of finishing structures and removal of super contacts;
7) Stationary installation of orthopedic structures that meet clinical requirements.

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An important task when using all types of prostheses in the molding process was to obtain a clear image of the gum line. To do this, we used a two–layer silicone mass (main and corrective layers) "zettaplus" (Germany) - high-precision silicone. With the help of a floss before molding, it was inserted into the gum pocket of the tooth to get a clear image, in addition to soft tissue damage. Impressions were taken from both jaws to detect central occlusion when using all types of prostheses, a base layer of used silicone or wax roller was applied, and patients were asked to clench their teeth under the control of occlusion [17.18.19].

It should be noted that at all stages of the production of bridges, we are in close contact with the laboratory: from the moment of manufacturing the metal frame to determining the final color and color scale according to Ivoclar and VITA Toothguide. 3D - Master (Germany). Interclusal supercontacts were identified using articulation paper, foil and softened wax. The topographic zones identified during the detection of puncture marks have been cleared. Supercontacts have been eliminated for all types of lower jaw movements. During repeated prosthetics in the area of the primary prosthesis on the implants, changes in the mucous layer were noted in the form of hyperemia, edema, hypertrophy, hemorrhages, which predetermined our efforts to eliminate the above errors [2,6,8].

After temporary fixation of the bridge-like structures, in the absence of discomfort and complaints in the oral cavity for 2-3 weeks, the final fixation was performed with vitreous cement "Cemion F" (Germany). Intraoral radiography was performed using a visiographic apparatus. The following shooting modes were used: voltage - 25 kV, current - 9.6 Ma, shutter speed - 3 seconds, distance to the object - 60 cm. Filming, developing, fixing and drying of films were carried out under standard conditions. The resulting radiograph was examined visually and optically using a negatoscope. Orthopantomograms were obtained using the Planmeca apparatus, and computed tomograms were obtained using the Planmeca Pro Max 3D computed tomograph [18.19].

A comprehensive study of clinical and radiological parameters, identification and control of previously performed endodontic interventions, repeated complete obstruction of root canals was carried out. Previously, we had poorly sealed the root canals Or removed the seal in the upper part of the root, as a result of which the root canal was constantly closed. And only in cases of complete endodontic treatment and detection of the condition of the dental periodontal complex, especially marginal periodontal, we referred to the following stages of prosthetics. Additional radiographs, intraoral studies (scopes) were performed to determine the state of the periodontal complex, in particular the state of the marginal periodontal, the quality of endodontic treatment, the state of periapical tissues with the removal of bridge structures and repeated prosthetics if necessary [14.16].

The electrical excitability of the dental pulp was determined after the removal of the bridge-like structures. according to electrodontometry, the base teeth were subjected to depulpation and endodontic treatment, taking into account the grouping of teeth of the upper and lower jaw, as well as by observing targeted intraoral images or orthopantomograms [18.19].

Conclusion. The next stage, according to the generally accepted method, is the odontodiagnostics of the base teeth: the production of a barrier using retractable threads, pouring silicone mass from the sandwich technique of each jaw, determining their proportions in a closed oxide. The metal frame was then tested by applying a second layer of silicone mass and correcting by removing super contacts. After testing the finished prosthesis, it was unintentionally and dynamically injected for one year and selectively for up to three years.

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